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USSR Report

ENERGY

No. 89

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ELECTRIC POWER

ELECTRICAL ENERGY DEVELOPMENT IN PAVLODARSKAYA OBLAST DETAILED

[Editorial Report] Alma-Ata SOTSIALISTIK QAZAQSTAN in Kazakh 13 December 1981 carries on page 2 a 1,000-word article, published under the regular rubric "Today at the Pavlodar-Ekibastuz Territorial Production Complex," by O. Qaliev on electrical energy development in Pavlodarskaya Oblast with special reference to the growth and present state of the Ekibastuz State Rayon Electrical Station. Major advances are now being made in Pavlodarskaya Oblast and the region is becoming a major KaSSR thermal-energy base due to the establishment of a number of major facilities.

Intensive development began in 1965 with the construction of thermo-electrical centers one, two and three. It continued with the establishment of the Ermak State Rayon Electrical System whose facilities have a total capacity of 3 million kilowatts. More than 20,000 kilometers of high tension lines and 3,000 transformers provide a service area of 125,000 km^2 for this capacity.

Recently, the party and government devoted major attention to Ekibastuz. Based on the Ekibastuz and Maykobe coal deposits, a decision was made 5 years ago to build four great thermo-electrical stations with a total capacity of 16 million kilowatts; today 12,000 workers are involved in the project which will absorb 8 billion rubles, an investment equivalent to that of some of the largest all-union projects (e.g., the new trans-Siberian rail links).

The author discusses a major aspect of Ekibastuz development, namely, the establishment of a system of high tension transmission lines, which is occurring on an unparalleled scale. He also discusses the current situation at Ekibastuz where experimental electrical transmission has begun and where the first section of No. One State Rayon Electrical System is completed and is operating with a present capacity of 2 million kilowatts--equal to the capacity of the older Ermak Station--and where plans are now being developed for a series of satellite stations to boost production. Developments at Ekibastuz have resulted in a substantial drop in KaSSR electrical energy costs.

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CSO: 1832/1070

PARTY PLENUM ADVANCES NEW GOALS FOR KAZAKH FUEL AND ENERGY INDUSTRY

[Editorial Report] Alma-Ata SOTSIALISTIK QAZAQSTAN in Kazakh 13 December 1981 carries on page 2, under the rubric "Energy, the Economic Key," a 1,500-word interview with A. O. Arystanov, first deputy minister of Power and Electrification KaSSR, on the future of the Kazakhstan fuel energy industry in view of the

November 1981 Plenum of the CC CPSU that discussed the orderly development of the Soviet fuel-energy complex and sanctioned policies for 1982. Arystanov answered questions about what will be done in the KaSSR in response to the plenum decisions, how energy and fuel alloted for specific needs can be economized, what the major unresolved issues are in republic energy development and what the minister expects to be achieved. Arystanov notes that energy is developing at a rapid rate in Kazakhstan and that the general capacity of the Ekibastuz Fuel-Energy Complex, the largest in the world, has reached 20 million kilowatt hours while the Shul'ba Electrical Station is now under construction. However, he continues, the complexity of energy development is driving up costs so that producing more energy in relation to expended effort is now a major goal. A well-developed program to conserve thermal and energy reserves has consequently been prepared for the current five-year plan. This will involve new capacities, renewal of generating equipment and reconstruction. He calls for strict adherence to economic laws and for a search for means to conserve at present development levels and to reduce waste with plans now in force, seeking the savings of one gram of fuel for kilowatt hour of energy produced.

Arystanov notes that problem areas include coal production, construction (especially residential construction) and repair--with special reference to the Ekibastuz complex where energy blocks three and four have been put to work or are being prepared for operation but where the units of No. One State Rayon Electrical System still do not operate regularly due to poor quality equipment and problems in installation and mounting work as a result of a shortage of construction workers. Another problem is that many existing generating stations are inefficient due to outdated equipment; moreover, energy development has outstripped fuel resources in some areas. Regarding the future, he notes that next year the republic will produce 67.8 billion kilowatt hours of electrical energy and 50 million gigacalories of heat.

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CSO: 1832/1070

EKIBASTUZ RESOURCES BEING DEVELOPED AS NEW ELECTRIC POWER BASE

[Editorial Report] Alma-Ata **PARTINAYA ZHIZN' KAZAKHSTANA** in Russian No 8, August 1981 carries on pages 26-30 a 2,100-word article by S. Kurzhey, general director of the "Ekibastuzugol'" Production Union entitled "A Strategy for Ekibastuz." Because Ekibastuz coal is easily accessible and cheap, one-tenth of Soviet coal production takes place there. Since 1975 the "Ekibastuzugol'" Production Union has been the largest open pit mine in the USSR, with high productivity and an average primary cost eight times less than the all union average. Kurzhey notes that efforts are being made to increase mining efficiency (e.g. reduce primary costs) and to raise total production to 170 million tons to support four new state regional electrical systems and a new electrical station. These facilities alone will consume nearly 20 million tons of coal a year. Altogether, Ekibastuz coal will support electrical stations with 36-38 million kilowatts capacity to achieve the new high levels, new and larger excavators, automatization of production and production processes, transport reorganization, new multi-cut methods will be used. Problems mentioned include lack of a coordination of all units and organizations involved (he calls for the creation of a coordinating council), lack of housing and other facilities for growing numbers of workers and construction lags.

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CSO: 1832/1023

MINISTRIES RESPOND TO WEST SIBERIAN OIL, GAS DEVELOPMENT PROBLEMS

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 81 pp 123-127

[Article: "Problems of Forced Development of the West Siberian Oil and Gas Complex"]

> [Text] The fourth issue of this journal published materials from a roundtable meeting of the journals PLANOVOYE KHOZYAYSTVO, KHOZYAYSTVO I PRAVO, MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE, and SOTSIALISTICHESKIY TRUD which discussed questions of the efficient use of material and labor resources in building the main oil and gas pipelines. The hope was expressed that the questions covered would attract the attention of the interested economic agencies. The editorial staff received answers to them from the Ministry of the Oil Industry, the Ministry of the Gas Industry, and the Ministry of Construction of Oil and Gas Industry Enterprises which are presented below.

The response of the Ministry of the Oil Industry written by Deputy Minister Sh. S. Doncharyan says the published materials touch upon a broad circle of urgent questions for the Ministry of the Oil Industry: perfection of the economic mechanism; improvement in planning and organization of production and construction; efficient use of capital investments, material and labor resources; expansion and perfection of the industrial methods of construction, in particular, the block-set method; improvement in the quality of plans and unification of the planned solutions. The ministry is constantly working to solve these questions.

One of the most important ways to increase the effectiveness of capital investments is to concentrate them, decrease the number of construction sites, and direct the capital investments, and consequently, the material and labor resources towards the construction sites that quarantee the planned level of oil extraction, recovery of casing-head gas, delivery of oil to the consumers, and resolution of social tasks. The concentration of capital investments to be done by the ministry is characterized by the following data. With an increase in the volume of capital investments in 1981 as compared to 1978 by 38%, the number of newly started and simultaneously built construction sites was significantly reduced. Incomplete construction in this period was diminished from 70.8% to 66.4%. This work will be constantly underway.

The Ministry of the Oil Industry is taking a number of measures to improve the planning, increase the quality of the plans and the timely issuing of documents to the subcontracting construction organizations. In order to unify the planned solutions, parametric series of oil pumping stations have been developed for the main oil pipelines, central points for collection and preparation of the oil, gas and water, and separator pumping stations for the fields. This work has been done jointly with the Ministry of Construction of Oil and Gas Industry Enterprises with the direct participation of its planning and design organizations.

The Ministry of Construction of Oil and Gas Industry Enterprises, Ministry of the Oil Industry and Ministry of the Gas Industry have unified the dimension plans for production buildings for different facilities of the oil and gas industry. The specialists of the planning organizations of the Ministry of the Oil Industry and the Ministry of Construction of Oil and Gas Industry Enterprises have prepared a list of block-set devices (BSD) needed to form the facilities of oil fields and for trunkline oil transportation. The list has significantly limited the type-sizes of these devices. This will simplify the process of designing and fabricating BSD and construction of facilities.

A special meeting of planning organizations and subdivisions of the ministry's commission of experts that was held in May 1981 in Gomel' covered questions of improving the quality of planning and study of the planning-estimate documents. The decisions of the meeting that were approved by the ministry leadership were aimed at improving the quality of development of the planning-estimate documents by introducing into the plans the latest scientific and technical achievements, progressive space-design and structural solutions in the area of mechanization and automation of the technological processes, improving the effectiveness of capital investments, the efficient use of all types of resources in construction and operation of the planned facilities. The appropriate subdivisions of the ministry are supervising and monitoring the realization of these decisions.

Industrialization of construction based on the use of block-set devices has been the basic technical policy of the Ministry of the Oil Industry for the last 20 years. This method was started in the 1960's in the fields of Tatariya, Bashkiriya and Kuybyshevskaya Oblast. The current volumes of construction are unthinkable without a further development of this method, and without the resolution of those questions discussed by the participants of the roundtable in Tyumen'. The Ministry of the Oil Industry is working to perfect the block-set construction in constant and close cooperation with the Ministry of Construction of the Oil and Gas Industry Enterprises and machine construction ministries. However, the problem of expanding block-set construction would be resolved more successfully if it was included in the integrated target programs formed by the USSR State Committee on Science and Technology.

There should be an improvement in the supply of production of block-set devices with equipment supplied by the customer. The Ministry of the Oil Industry and the Ministry of Construction of Oil and Gas Industry Enterprises are working on solving the mentioned question in order to prepare forms of equipment supply to the enterprises producing the BSD that are acceptable to the customer and the subcontractor. This is directly linked to the urgent need to replace the decision of the USSR Gosstroy of 30 December 1976 to include the cost of fabricating the block-set devices in the construction-installation work. The cost of the BSD as an industrial product must be classified as an equipment cost.

The BSD prices need to be regulated. Prices were set in 1975-1976 for experimental BSD that should have been reviewed when the mass production of these devices had been mastered. However, they are in effect even now, although they do not reflect the actual labor and material outlays. According to an estimate of the institute "Giprotyumenneftegaz" of the Ministry of the Oil Industry, they are exaggerated from 20 to 40% for different types of BSD.

The cost of items manufactured by the plants of the Ministry of the Oil Industry in Tyumen' averages 25% lower than similar products of the Ministry of Construction of Oil and Gas Industry Enterprises. The USSR State Committee on Prices, USSR Gosplan and USSR Gosstroy should participate in solving this problem.

The quality of BSD fabrication needs to be improved. Acceleration of construction is not an end in itself. The constructed facility should have high operational reliability, durability and the minimum operating expenditures.

The participants of the roundtable meeting advanced an interesting suggestion about including a section "Organization of Material and Technical Supply" in the plans of the main pipelines. It is expedient to include it in the plan for building up the oil fields. When there is a positive resolution of this question by the USSR Gosstroy, construction of facilities for material and technical support of the construction sites in the period of construction preparation will be regulated.

The Ministry of the Oil Industry considers the suggestion of the participants of the meeting to give the main territorial administrations of the USSR Gossnab the right to redistribute the above-standard leftover equipment and materials in the enterprises regardless of the departmental affiliation of the latter, to be expedient. This entirely in keeping with the task of efficient use of material and technical resources that was advanced in the decisions of the 26th CPSU Congress.

Balance in the plans for all indicators and resources both in production and in construction is the basis for successful fulfillment of the set assignments. The Ministry of the Oil Industry is taking decisive measures to guarantee it during the formation of the annual plans in the USSR Gosplan, USSR Gossnab, supplying ministries and subcontracting construction ministries. However, they have not achieved complete balance of the plans. Start-up of the basic funds in production construction and living area is planned in housing only by the client ministry, and is not planned by the subcontracting construction ministries. This causes great difficulties in forming, and especially in realizing the plans. This is aggravated by the fact that the Ministry of Construction of Oil and Gas Industry Enterprises gives its organizations assignments for start-up of housing that differ from the planned indicators given to the Ministry of the Oil Industry by the USSR Gosplan. The planning agencies must implement more firmly the measures stipulated by the decree of the CPSU Central Committee and the USSR Council of Ministers of 12 July 1979 "On Improving Planning and Strengthening the Effect of the Economic Mechanism on Improvement in the Efficiency of Production and the Quality of Work."

The Ministry of the Oil Industry in 1975 and 1980 examined the suggestions of the Ministry of Construction of Oil and Gas Industry Enterprises for the construction of main oil pipelines as "turn-key job and considers this construction possible according to the plans of the Ministry of the Oil Industry for gas refineries, repair plants, production bases and supply bases, and central points for the collection and preparation of oil, gas and water. Turn-key construction of main oil pipelines is unacceptable, since all the construction and installation work on the linear part is hidden, and even with constant inspection of the customer the necessary quality is not always achieved, and in turn-key construction the customer loses control.

The ministry has taken a number of measures to improve control over the development of oil extraction in West Siberia, to expand the watch method of working, organizing production and construction. The roundtable meeting participants also spoke of this.

The Ministry of the Oil Industry has created a permanent operational group made of 18 highly skilled specialists in order to strengthen coordination of work to develop extraction of oil and gas, residential and socio-cultural construction in West Siberia, and in order to prepare the appropriate documents and make an effective link with the associations in the central apparatus. Production sections for West Siberia have been set up in the administrations for development of equipment, technology and organization of extraction of oil and gas,and drilling of the ministry.

The volume of drilling operations done by watch-expedition method in West Siberia will increase in 1985 as compared to 1980 2.6-fold, while the number of workers will roughly double. For those who are working on the watch method, a summarized accounting of working time has been set up. Workers of the drilling and derrick-installation brigades and others generally work on a 12-hour schedule in constant production, and on a 10-12-hour schedule with interrupted production, with a change in the shifts every 15 days in both cases.

The organizational structure of the Administration of Drilling Operations and other organizations that have introduced the watch-expedition method has practically not changed. Individual duties of the engineering and technical workers and the occupations of the workers have been additionally introduced to provide the leadership with operations in the control apparatus, the shops, brigades and other structural subdivisions. In addition, a second drilling foreman has been added to the drilling brigade, and a deputy head of the administration has been added to the Administration of Drilling Operations.

The ministry has formulated the following documents to regulate the vacation and working time and bring order into the interrelationships between the drilling organizations: "Temporary Statute on the Watch Method of Drilling Operations," "Instructions on the Order of Accounting for Working Time and Travel Time," "Temporary Statute on Working Time and Vacation Time of Workers Working on the Watch-Expedition Method." However, there are no interbranch documents to set up work by the watch method. The Ministry of the Oil Industry believes that these documents must be formulated and approved in the near future.

The Ministry of the Oil Industry is working for extensive dissemination of the brigade contract in the construction of oil and gas wells. According to the state of affairs on 1 May 1981, of 129 drilling brigades in the Glavtyumenneftegaz, 116, or 90%, were operating on the brigade contract, 82.4% in the association "Komineft'," and all the construction and drilling brigades in the association

"Tatneft'." The brigade contract is becoming popular in the derrick-installation brigades as well. Of the 78 derrick-installation brigades in Glavtyumenneftegaz, 38 operate on the brigade contract.

Measures are being taken to perfect the organization of labor in the construction organizations of the Ministry of the Oil Industry. Brigade forms of labor organization are used in 64% of the construction and installation brigades. In 1980, 164 brigades were switched to the brigade contract, and 260 will be switched in 1981. Organizational and technical measures have been formulated for the 11th Five-Year Plan to introduce the brigade contract in 50% of all the brigades working in in-house construction organizations.

A branch meeting of the ministry builders which took place in May 1981 in Drogobych covered questions of improving the efficiency and quality of work of the Ministry of the Oil Industry's construction organizations. The realization of its decisions that were approved by the ministry leadership has been entrusted to the appropriate services.

The role of centralized sources of supplying the enterprises with workers increases when there is a strict shortage of labor resources in the regions of the West Siberian oil and gas complex. It becomes necessary to redistribute the young people, in particular, the graduates of vocational and technical schools that are operating in the oil industry enterprises in other regions.

The Gosprofobr [State Committee for Vocational and Technical Education],however, has declined the suggestions of the ministry to send the vocational and technical school graduates from other regions to the oil industry enterprises in West Siberia.

Taking into account the importance of the West Siberian oil and gas complex, it is expedient for the USSR Gosplan, USSR State Committee for Labor and the USSR Gosprofobr to allow the oil industry enterprises of West Siberia to gather and train workers in the educational network of the Ministry of the Oil Industry enterprises that are located in other regions of the country. The councils of ministers of the union and autonomous republics should stipulate the labor resources needed for this in the 1981-1985 plans.

The ministry has entrusted the appropriate subdivisions with taking into consideration the roundtable meeting report in further practical work in the sector that is done jointly with other ministries and departments and higher organizations.

The response of the Ministry of the Gas Industry signed by Deputy Minister A. G. Gudz' notes that the Ministry of the Gas Industry attributes serious importance to the questions discussed at the meeting, since the guarantee of construction and the start-up of facilities of the gas industry, and in the final analysis, fulfillment of the set tasks for extraction and transportation of gas depend on their accurate resolution by the participants of the investment process.

The construction-installation organizations of the Ministry of Construction of Oil and Gas Industry Enterprises, however, do not guarantee fulfillment of the set assignments for start-up of the production facilities, housing and socio-cultural and general services facilities. Start-up of basic funds costing 5.17366 billion rubles, gas pipelines 8625.2 km long, housing of total area

527,920 m^2 and schools for 5032 places was stipulated in 1980, for example. Actually, 4.3216 billion rubles, 6584.3 km (76.3%), 417,200 m^2 (66%) and 5288 places (105%) were realized respectively. The situation has not improved in the first 6 months of this year.

The Ministry of the Gas Industry,for its part, is taking measures to change this situation. The plan for this year includes 203 newly started construction sites, i.e., 44 fewer than in 1980. A total of 91% of the allocated capital investments have been sent to the challenge and start-up construction sites. This promoted a reduction in the volume of incomplete construction on 1 July 1981 by 400 million rubles as compared to the actual level on 1 July 1980.

In evolving the block-set method of construction of surface facilities in the sector, the ministry started a qualitatively new stage, organization of delivery of block-set stations with a high degree of plant and installation readiness by a single general supplier according to single unified plans. The planning organizations of the ministry are currently completing their formulation. An order of the ministry of 26 June 1981 placed on the Uzhgorod experimental plant of gas transport units of the Ministry of the Gas Industry the functions of the general supplier of such units with gas pumping units GPU-10. A basic agreement for supply of block-set compressor stations with GPA-Ts-6.3 and GPA-Ts-16 has been reached with the Ministry of Chemical Machine Construction, and for GTN-16 and GTN-35 units with the Ministry of Construction of Oil and Gas Industry Enterprises. This will increase the responsibility of the suppliers for the technical level, quality and reliability of the equipment, will improve the organization of construction, drastically reduce the duration of the installation operations at the site, and accelerate the start-up of the facilities,

The ministry has formulated and sent to the Ministry of Construction of Oil and Gas Industry Enterprises for agreement a conclusion about turn-key construction of gas industry facilities. Jointly with the conclusion on turn-key construction of enterprises (structures) approved on 13 October 1980 by the USSR Stroybank [Construction Bank], and agreed upon with the USSR Gosplan, USSR Gosstroy, USSR Ministry of Finance and the USSR Gossnab, it guarantees a transition to construction of facilities in the sector on the basis of this method. Turn-key construction of the sector facilities will help to increase the efficiency of capital construction and the interest of the general contracting organizations in putting the facilities into operation.

The ministry has made the necessary structural transformations that help to improve the planning of capital investments, organization of construction of gas pipelines, and monitoring of its course.

A ministry order of 15 July 1981 has created the Main Administration for Construction of Gas Pipelines (Glavstroygasoprovod) and the Administration of Planning Work. The functions of planning capital investments have been passed to the Administration of Capital Construction.

The ministry has also taken other measures to eliminate the available shortcomings in the operation of the organizations that are fulfilling the functions of clients. Measures have been taken jointly with the related ministries for additional provision of equipment for the facilities, its shipping to warehouses near the facilities, strengthening of author's inspection, fulfillment of start-up and adjustment operations, and sending of experienced ministry representatives to the construction sites.

The condition of construction, provision with equipment, and guarantee of putting the most important gas pipeline systems on the planned mode were examined together with the Ministry of Construction of Oil and Gas Industry Enterprises at the sites and at joint meetings of the boards.

The response of the First Deputy Minister of construction of oil and gas industry enterprises Yu. P. Batalin notes that the ministry, after examining the report of the roundtable meeting that was set up and run by the editors of the journals, believes that the analyzed questions of the efficient use of material and labor resources in the construction of main gas pipelines are very important for the development of the sector. These questions were discussed in July 1981 at a party meeting of the ministry and a meeting of the board.

According to the Main Directions for the Economic and Social Development of the USSR for 1981-1985 and the Period to 1990, implementation of a program of forced development of gas extraction is stipulated, primarily through accelerated development of the West Siberian gas fields. Realization of this program will be based on the extensive use of the latest achievements of science and technology, the fulfillment of target sector and intersector programs, introduction of advanced methods of organization of construction and installation work, and the use of efficient technological and technical solutions during the entire cycle of construction, from planning to the start-up of the facilities. The ministry is taking the appropriate specific measures.

The selection, made jointly with the Ministry of the Gas Industry, of the most efficient directions for the gas mains made it possible to solve the problem of building them in one corridor. The basic conclusions have been worked out for the organization of construction of a system of main gas pipelines by large production lines using the shuttle method. This will exclude losses of time for moving from facility to facility, allow timely fulfillment of the preparation work, and create integrated housing settlements for the builders of compressor stations and line workers.

The Presidium of the USSR Academy of Sciences in July 1981 examined questions of oil and gas construction and the participation of basic science in the evolution of pipeline transportation. The Ukrainian SSR Academy of Sciences has been designated as the chief scientific center to resolve them.

The schedules for execution of measures entrusted to the scientific and planning organizations of other ministries and departments for the improvement in the technology of constructing main gas pipelines have been agreed upon with the USSR State Committee for Science and Technology.

The block-set method of construction will be further developed. Its use has resulted in a 23% increase in the last 5 years in labor productivity, and the average duration of compressor station construction has been reduced from 17.5 to 12.5 months. This year, over 63% of the work to build compressor and pumping stations, units of comprehensive preparation of oil and gas, and other facilities of the oil and gas industry will be done by the block-set method.

A branch program for improvement in the system of delivery and use of pipes is being compiled by the ministry in order to improve economic activity. The leaders of the organizations have been given personal responsibility for the use of pipes, materials and equipment. Work is underway for economical consumption of electricity and heat, and stopping cases of poor management and waste. The organizations and enterprises of the sector have adopted commitments to save 11,000 T of rolled metal products, 25,000 T of cement, 7,200 T of conventional fuel and 20 million kW-h of electricity in 1981.

The ministry has prepared a general plan to control construction of oil and gas industry enterprises. The basic measures of this plan have been realized or are being realized. This will guarantee a systematic acceleration in the rates of building main pipeline systems, building up gas and oil fields, and the comprehensive construction of cities and settlements in West Siberia.

The sector is taking a number of measures to improve organization and payment of labor. Scales of brigade contract usage have risen. This progressive method was used to fulfill one-third of the total volume of construction and installation work. Its introduction has resulted in a considerable increase in the efficiency of construction and reduction in the periods for erecting the most important oil and gas facilities.

A target program for the development and improvement of the brigade contract in the organizations of the Ministry of Construction of Oil and Gas Industry Enterprises for 1981-1985 has been approved together with the Central Committee of the oil and gas industry workers' trade union. The brigade contract will be used to fulfill 40% of the total volume of work by the end of 1981.

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AZERBAIJAN DECREE CRITICIZES PETROLEUM, GAS AGENCY

Baku BAKINSKIY RABOCHIY in Russian 26 Dec 81 p 1

[Article: "In the Azerbaijan Communist Party Central Committee"]

[Text] The Azerbaijan Communist Party Central Committee has discussed the question of the work of the party committees of the gas and oil production and drilling directorates of the Ordzhonikidzevskiy Rayon in mobilizing collectives to fulfill plans and socialist obligations in light of 26th CPSU Congress requirements.

The decree which was adopted points out that the party committees of the oil and gas production and drilling directorates of the Ordzhonikidzevskiy Rayon are conducting definite organizational and mass political work in labor collectives and are rallying and directing their efforts towards the fulfillment of plans and socialist obligations. This has permitted a lowering of the rates of decrease in oil production, overfulfillment of the goals in producing gas, and some increase in the technical and economic indicators for drilling operations to be achieved during the 10th Five-Year Plan. During the last period of the present year, the "Ordzhonikidzeneft'" NGDU [Oil and Gas Production Directorate] oil production plan was fulfilled; for the region on the whole, 726 million cubic meters of gas were produced and 5,400 meters of sinkings were drilled over and above the plan.

At the same time, the level and content of the work of the party committees of the oil and gas production directorates of "Ordzhonikidzeneft'" and of the Serebrovskiy, and of the Peschaninskoye Maritime Directorate for Drilling Operations to ensure the successful solution of economic tasks and the mobilization of the efforts of the workers and engineer technical workers to raise the effectiveness of production and the quality of work still does not correspond to the tasks put forward by the 26th CPSU Congress and the 30th Congress of the Azerbaijan Communist Party and to the directions contained in Comrade L. I. Brezhnev's speech to the November 1981 CPSU Central Committee Plenum. The party committees are poorly stirring up the work of the shop party organizations and party groups and that of the commissions to check on the administration's activities, and they have not exerted the necessary influence on the solution of production questions. The party organizations and leaders of the directorates are not concentrating the efforts of communists and of all workers sufficiently on the search for and the putting into operation of reserves and opportunities for the growth of oil production, the increasing of outputs, and an improvement in the quality of drilling operations.

A large shortfall was permitted by the NGDU imeni Serebrovskiy which gave 438,000 tons of oil less than the plan during the 10th Five-Year Plan, and during the current year -- 6,000 tons. The main reason for the condition, which has been created, was the slow development and opening up of the prospective "Bakhar" deposits, where the erection of installations for the collection and transporting of products was unjustifiably prolonged and where a considerable amount of new wells were not put into operation. As a result, the volume of oil production decreased almost ten percent in this deposit during the five-year plan instead of the planned growth. Considerable derelictions exist also in the development of the "Ordzhonikidzeneft'" NGDU deposits. Many violations are being permitted in oil and gas production technology, and research work is not being sufficiently incorporated.

Serious shortcomings exist in the work of the Peschaninskoye directorate for drilling operations. Production time for the directorate was only 65 percent during the 10th Five-Year Plan because of the low level of work organization and the incorrect use of labor and material resources. A total of 35 accidents occurred during this period, the majority of which happened due to the fault of the executives; 13 wells were eliminated for technical reasons, and almost 20,000 meters of sinkings were left undrilled.

The party committees did not display the necessary initiative and steadfastness in solving questions concerning the renovation of enterprises and the introduction of new equipment and progressive technologies. The Azerbaijan Communist Party Central Committee and the republic Council of Ministers decree, "On Measures To Further Intensify Oil Production in the Republic and To Use Secondary and Tertiary Oil Extraction Methods", is being carried out poorly. Tertiary measures for intensifying production are being taken only in ten percent of the wells although it is possible to embrace more than a third of the operating assets with this method.

Considerable shortcomings exist in the selection, placement and indoctrination of personnel. More than 15 percent of the engineer technical workers in the directorate do not have the appropriate education; at the same time,407 specialists with a higher and secondary special education occupy worker positions. Little attention is being devoted to the young workers. More than three-quarters of the professional and technical institute graduates, who have been sent during recent years to the directorate, have left production.

The party committees are not devoting the necessary attention to improving the effectiveness of the organizational, political, and indoctrinational work performed in the collectives. Urgent production questions are seldom discussed during meetings and sessions of the bureau, and existing shortcomings are not being subjected to high-principled criticism. During the 10th Five-Year Plan, the over-expenditure of oil for its own needs over and above the plan to a volume of more than 54,000 tons was permitted in the "Ordzhonikidzeneft'" NGDU, and gas losses reached 600 million cubic meters in the NGDU imeni Serebrovskiy. However, these questions were not thoroughly studied by the party organizations, and steps were not taken with the economic leaders to eliminate this abnormal phenomenon. An effective check on the realization of combined ideological and moral indoctrination plans is not being conducted, and a correct party evaluation is not being given to cases of the loss of the sense of responsibility for the job entrusted and to other violations on the part of some communists.

The party and trade union committees and the economic leaders of the directorates are making poor use of the opportunities for socialist competition to further improve the effectiveness of production and the quality of work and to disseminate progressive experience and valuable initiatives and undertakings. Annually, one third of the shops and brigades for drilling for and producing oil and gas and for repairing wells do not cope with plans, and one-half -- with obligations. The necessary attention is not being paid to raising production standards and improving services in housing and dining halls, and the needs of the oil workers for lodgings and for trade and personal services are not being sufficiently satisfied.

The Ordzhonikidzevskiy party raykom is not fully checking on the work of the party organizations of the NGDU imeni Serebrovskiy and the "Ordzhonikidzeneft'" and the Peschaninskoye Maritime Directorate for Drilling Operations; is not displaying towards their party committees exactingness for strengthening party leadership over economic activity and for raising the responsibility of the leading and the engineer technical workers; and is poorly developing the creative initiative of worker collectives in the interests of making maximum use of existing reserves and carrying out plans and socialist obligations.

The Azerbaijan Communist Party Central Committee has required the party committees of the oil and gas production directorates of "Ordzhonikidzeneft'" and imeni Serebrovskiy and the Peschaninskoye Maritime Directorate for Drilling Operations to develop and carry out measures aimed at eliminating the deficiencies, which have been pointed out in the present decree, and to ensure the creation of an atmosphere of high responsibility for increasing oil production output and improving drilling indicators in the collectives.

Guided by the directions of Comrade L. I. Brezhnev, general secretary of the CPSU, concerning questions on the development of the fuel and energy branches of industry [it is necessary]:

to ensure a further rise in the level of organizational, political, and indoctrinational work in labor collectives and improve the party leadership of economic activity and the role of primary and shop party organizations and party groups in solving production tasks;

to improve the work style and methods and strengthen the influence of party meetings on the carrying out of the practical tasks facing the collectives; to see to it that an exchange of opinions and business-like and interested criticism broadly unfold during party meetings and that concrete and sound decisions are made on the questions being discussed; to improve the organization of checking on and inspecting the execution and achieve an organic merging of checking and practical work in carrying out the decrees of higher organs and their own decisions.

The party committees and economic leaders of the oil and gas production and drilling directorates of the Ordzhonikidzevskiy Rayon must:

ensure during the 11th Five-Year Plan an increase in the production of oil and gas and in the volume of drilling operations, and a speed-up in the technical re-equipping of enterprises; take steps to improve the development of deposits and drilling processes, to introduce highly effective measures to intensify oil production and the sinking of wells to strengthen the policy of economy and thrift, and to bring the necessary standards to the industrial territories and maritime foundations;

for the NGDU imeni Serebrovskiy: strengthen its attention on the development of deposits and improve the checking of the technical level of their development; in the "Bakhar" deposit, finish by the end of the five-year plan the reconstruction of the system for collecting and transporting oil, gas and condensate and increase the volume of oil production here by ten percent;

for the "Ordzhonikidzeneft'" NGDU: achieve a significant growth in the volume of drilling for residual oil and broad use of advanced secondary and tertiary oil extraction methods in the deposits of Surakhana and Karachukhur, and -- based on this -- ensure an increase in the selection of oil reserves; complete the shift of all wells to non-leaching operation in 1985;

for the "Ordzhonikidzeneft'" NGDU and the NGDU imeni Serebrovskiy: achieve a sharp improvement in the work of underground and major well overhaul brigades, an increase in their interchangeability, their equipping with the necessary equipment and instruments, and the full staffing of the brigades with qualified workers and specialists;

for the Peschaninskoye Maritime Directorate for Drilling Operations: ensure a sharp improvement in technical and economic drilling indicators by improving the organization of drilling operations, introducing advanced work methods, strengthening the checking for the observance of transmitting conditions,and decreasing accidents as much as possible; and achieve a growth in drilling production time of 10 - 15 percent during the 11th Five-Year Plan.

The party committees and economic leaders must improve their work with personnel, raise exactingness on engineer technical workers and middle level leaders for the state of affairs in work collectives, and instill in them a spirit of high responsibility for the carrying out of plans and socialist obligations and intolerance for shortcomings; promote young specialists more determinedly to leadership positions and create for them conditions for improving their professional skill and business qualifications.

It was suggested that the "Azneft'" and "Kaspmorneftegazprom" associations develop and implement a series of organizational and technical measures aimed at eliminating the deficiencies in the construction and development of deposits; review within a two-month period the prospects for the expansion of oil and gas production and geological prospecting and drilling operations in the Ordzhonikidzevskiy Rayon, and allot the appropriate capital investments and material technical resources for these purposes; devote greater attention to improving living and personal services conditions and to solving the social questions of the oil industry workers.

It was suggested that the party committees of the directorates, the republic trade union committee of gas and oil industry workers, and economic leaders improve the organization of the socialist competition to successfully carry out plans and obligations, decisively get rid of manifestations of formalism in adopting obligations and carrying them out, achieve an improvement in the effectiveness of production and the quality of work, ensure the broad incorporation of progressive experience and valuable initiatives and undertakings, and demonstrate constant concern for improving the work, living, and rest conditions of the workers.

The Ordzhonikidzevskiy Azerbaijan Communist Party raykom must raise the level of leadership of the work of the party committees and provide them the necessary help in improving organizational, party, political, ideological, and indoctrinational work; direct the activity of party, trade union and Komsomol organizations and of all workers toward the practical realization of the decisions of the 26th CPSU Congress and the 30th Congress of the Azerbaijan Communist Party, the implementation of the tasks put forward by Comrade L. I. Brezhnev -- general secretary of the CPSU Central Committee -- during the November 1981 CPSU Central Committee Plenum, and the successful fulfillment of plans and socialist obligations.

8802
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MORE INTENSE USE OF MACHINERY IS COAL MINING'S CHIEF NEED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 30 Aug 81 p 2

[Article by B. Bratchenko, USSR minister of coal industry: "The Main Direction"]

[Text] It became known the other day that industrial tests of the KM-103 longwall mining machine and the Poisk-2 cutter-loader have been passed with success at Donbass [Donets Coal Basin] underground coal mines. The miners have been expecting these machines for a long time: they make it possible to excavate thin, gently sloping and superthin, sharply dipping seams, which contain many millions of tons of the most valuable coking coal. In all, more than 2,000 tons of fuel above the plan were mined by means of the new equipment during the first half of the year at the Krasnyy Oktyabr' Underground Coal Mine in Yenakiyevo, where the tests were conducted.

It is precisely this path--building up technical might in every possible way--that we intend to follow also during the current five-year plan. "Each branch," said L. I. Brezhnev at the 26th Party Congress, "faces its own urgent tasks and specific problems. But there are problems that embrace the whole sphere of the national economy, and the main one among them is that of completing the transition to primarily an intensive path of development."

This requirement is especially urgent for the coal industry, since the growth in scale of production needed to bring the amount of coal mined annually up to 770-800 million tons during the 11th Five-Year Plan will be possible only by intensive operation of the mining activity. A most important direction here is an unprecedented pace in the development of the surface mining of coal, which, in comparison with underground mining, provides for a 4.4-fold reduction in the prime cost of the fuel and 9-fold greater labor productivity. Right now the surface mines are producing 38 percent of all coal, and by the end of the 11th Five-Year Plan the share of the surface method in all coal mined should be 41-42 percent. Even now such huge strip mines as the Nazarovskiy and Irsha-Borodinskiy, with capacities of 13 and 18 million tons, the Bogatyr', the world's largest strip mine, with a design capacity of 50 million tons of coal per year, and other strip mines are already operating within the industry.

In accordance with a CPSU Central Committee and USSR Council of Ministers decree adopted in 1979, construction of the Kansk-Achinsk Fuel and Power-Engineering Complex, which can be compared in scale only with such construction projects of modern times as the BAM [Baykal-Amur Mainline] or KamAZ [Kama Motor-Vehicle Plant], is under way.

In South Yakutia construction of the Neryungrinskiy Strip Coal Mine and preparation plant with a capacity of 13 million tons is being completed. Coal mining in Kazakhstan, where the constellation of coal giants includes the Severnyy and Vostochnyy surface mines, is being built up.

Unfortunately, construction and installing work at the Pavlodar-Ekibastuz TPK [Regional Production Complex] and at KATEK [Kansk-Achinsk Fuel and Power-Engineering Complex] is progressing poorly. Both USSR Minugleprom [Ministry of Coal Industry] and our contractors are at fault. Last year, for example, USSR Minenergo [Ministry of Power and Electrification] failed completely to fulfill the program for building housing for miners in Sharypovo of Krasnoyarskiy Kray; this will prevent construction-worker collectives from being established in full measure for the coal portion of KATEK and workers from being accepted for operation of the strip mines of the Krasnoyarskugol' Association, which is continuously building up the amount of fuel mining. Mintransstroy [Ministry of Transport Construction] and RSFSR Minavtodor [Ministry of Highways] have been poor at solving questions of the construction of access tracks and highways in the KATEK area.

The development of surface coal mining is based upon highly productive excavating and transport equipment. More than 30 models of new machines have been produced and put into operation recently.

At the same time, the industry's surface mines are experiencing difficulties in obtaining high unit capacity mine-transport equipment. During the past decade the shortfall in meeting USSR Minugleprom's requirements for large excavators was 100, and the replacement thereof by small machines led to a lag behind design solutions, an increase in the number of benches and working horizons at surface mines, a lengthening of transport lines, and, in the final analysis, a reduction in labor productivity.

Despite acceleration in development of the surface method, more than 60 percent of the coal is being mined at underground mines. Here also, thanks to reequipping with machinery and the construction of new enterprises and the rebuilding of old ones, the average daily load per mine has risen: in 1980 this was about 2,500 tons. More than a third of the coal mined underground is produced by mines with annual capacities that exceed 1.5 million tons. Among the largest underground coal mines are the Raspadskaya in the Kuzbass [Kuznetsk Coal Basin], the Borgashorskaya in the Pechora Coal Basin, the Underground Mine imeni 60-Let Leninskiy Komsomol and the Underground Mine imeni Stakhanov in the Donbass, the Tentekskaya in Karaganda, and others.

The most important area in the improvement of underground coal mining is the integrated mechanization of breakage-face operations and the conduct of preparatory excavation by tunneling cutter-loaders. Integrated mechanization has been completed in the Karaganda, Moscow and Pechora Coal Basins, while, at the same time, in the Donbass, which is marked by especially difficult mine geology, the level of integrated mechanization is only 56.7 percent. But it is also the case that the machinery is not being used effectively and economically. In the Pervomayskugol' Association, for instance, only 57 percent of the longwall mining machines are operating. Mining machinery is being used just as poorly also in the Leninskugol' Association in the Kuzbass, the Chelyabinskugol' Association and other associations.

The number of lagging underground and surface mines in the industry is not diminishing. More than 40 percent of them are operating at less than full capacity. Capacity is being mastered especially poorly in the Pervomayskugol', Shakhterskantratsit, Severokuzbassugol' and Primorskugol' Associations. Despite the fact that during the first half of the year the plan for labor productivity for the ministry was fulfilled, 14 associations did not cope with this most important indicator. And, at the same time, many advanced underground mining collectives are achieving outstanding results. During the 10th Five-Year Plan the daily mining of a thousand tons of coal became an ordinary goal for more than 400 brigades. The "thousandeers" movement has become the basis for the competition to mine from breakage faces at least 500,000 tons of coal or shale per year.

The outstanding achievement of the brigade under Hero of Socialist Labor M. Chikh of the Underground Mine Mayskaya, which mined 6.4 million tons of anthracite during the 10th Five-Year Plan, can be called a labor feat. The dissemination of advanced experience, the creation of conditions for carrying out high commitments by competing collectives, a rise in vocational skills and qualifications of workers and engineering personnel and the improvement of organization and management--these are highly important paths for intensifying production.

The general direction for development of the equipment and technology for mining work in underground mines during the 11th Five-Year Plan will be the introduction of unified longwall mining machines and units, and conversion to longwall miners that operate at a higher technical level, precluding heavy manual labor. An important place is assigned to development of the highly effective hydraulic method of mining and to the hydraulic method of transporting coal.

Reproduction of the breakage-face front is acquiring special significance for intensive coal mining. But despite the sharpness and obviousness of the importance of this task, not all associations are giving it proper attention. During the first half of the year the plan for tunneling failed in the Vorkutaugol', Kuzbassugol', Leninskugol', Selidovugol' and Pervomayskugol' Production Associations. Henceforth we will consider the attitude of economic supervisors toward tunneling operations to be the main criterion of their activity.

Here, as in breakage-face operations, mechanization is important, primarily an expansion of the amounts of tunneling with cutter-loaders. At present the level of cutter-loader tunneling for the industry as a whole is 38 percent, but in the Moscow and Karaganda basins and a number of production associations it exceeds 80 percent. In the nearest future it is planned to bring the level of preparatory operations by the cutter-loader method up to 50-60 percent for the industry. An increase in the output of mine-tunneling machinery will be of great help here. Scientists, design developers and machinebuilders should create more rapidly the Soyuz, Sibir' and KRT longwall miners for excavating hard rock, as well as cutter-loaders with a wider area of application.

The more complete and, at the same time, more economical use of machinery, primarily of longwall mining machines, is as of much importance in intensifying production as an increase in the output of underground mining equipment. Many of the longwall miners still have a low workload, and downtime for the equipment is great because of the accident rates with mine excavations and mechanisms. Because of this, the experience of the Trudovskaya, Krasnolimanskaya, imeni 7 November, Nagornaya, imeni

Kostenko and other underground mines, where socialist competition for the preservation of mining machinery is being developed successfully, deserves the widest dissemination.

The 26th CPSU Congress set before the coal industry major complicated tasks for supplying the national economy with fuel. The main prerequisite and the most important means for successfully. resolving these tasks is an intensification of production. It is this path that will lead miners to the intended goal, to the fulfillment of 11th Five-Year Plan tasks. In greeting the industry's workers on their vocational holiday--Miners' Day, I wish all of them new labor achievements and great success with all my heart.

11409
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FUELS

MOVES BEING MADE TO EXTEND LIFE OF GEORGIA'S COALFIELDS

Tbilisi ZARYA VOSTOKA in Russian 22 Nov 81 p 2

[Article by K. Kiziriya, director of the Tkvarcheli Underground Mine Administration of the Gruzugol' Production Association: "The Mining of Coal Is Increasing"]

> [Text] The large-scale tasks of building up the country's economic potential and of dynamically developing the fuel and power-engineering complex that the party has planned will require all worker collectives to multiply efforts to make more complete use of reserves and capabilities, it is pointed out in the CPSU Central Committee Plenum decree, "On Drafts of the State Plan for Economic and Social Development of the USSR During 1981-1985, the State Plan for Economic and Social Development of the USSR in 1982, and the USSR State Budget for 1982."

There are many coal reserves in our Tkvarcheli Coal Basin. Right now five underground mines are being operated here, and their total productivity exceeds 500,000 tons per year. Over a period of many years Tkvarcheli miners have increased coal mining and have made use of opportunities for raising labor productivity. These successes were governed by a large number of factors, not least of which were the correct organization of work and skill in looking at the long term with a view to doing everything possible to mine the coal with regularity and at least cost.

All this is so. In the not so distant past the picture was peaceful--so it was called--in general, and the level of the mining of coal remained stable on the whole. However, since the start of the current year the pace of the mining of fuel has been greatly reduced.

What are the causes of the situation that has been created? There are many causes, so the thought here is to single out only the main ones. In the first place, one must speak about the fact that the main coal reserves at the underground mines are being depleted. This, naturally, has caused a transition to the development of so-called peripheral minefield sections that are strongly disturbed geologically. And actually, if one glances at the curve of the balance of reserves of coal by mine, it is easy to note a very sharp disproportion. The fact is that these reserves consist of 100,000-300,000 tons of coal which are located in underground minefields that are in regions difficult of access.

It is possible, of course, to open up and work these reserves. But doing so will require a large amount of preparatory excavation. The share of such excavation per 1,000 tons of coal mines has grown today to as much as 50 running meters versus the All-Union standard of 12 running meters.

Where does one look for a way out of this situation? It is natural that, under these circumstances, it is necessary to search for ways to stabilize coal mining or to reduce its level systematically in the Tkvarcheli basin and to lengthen the life of the underground mines without additional capital investment. The simplest economic analysis indicates: with such an approach, output per ruble of fixed capital will be increased, and this will, of course, reduce the prime operating cost of the output and raise the profitability of the underground mines. Second, this is advantageous also because this method will enable the republic's fuel deficit to be balanced, especially for low-sulfur coking coal. For it is known that Tkbuli coal is not suitable for coking unless blended with Tkvarcheli coal.

There is still another aspect of the matter. The stabilization of coal mining is also important from the social point of view. Prolonging the life of the Tkvarcheli Coal Basin is important also for stabilizing the labor collective and for making better use of the region's labor resources.

It would seem that the solution of this important question should be accomplished in three basic directions in the Tkvarsheli basin: a detailed exploration of the peripheral underground mine fields, prospecting for new opportunities to work coal seams that are located in the so-called "permanently protected blocks," and, finally, the use of technology for the excavation of thick seams not completely exhausted previously. Our underground-mine administration has already undertaken realization of some of these tasks. Thus, for example, at peripheral sections of the underground field of mine No 6, geological exploration is being conducted that is yielding results that are quite good. It is becoming clear that the industrial reserves of this mine can be increased to 2 million tons of coal per year.

Specialists, engineers and technicians of Underground Mine No 3 have developed and are implementing a program for opening up and preparing for mining a new coal seam not counted in the balance of reserves. Breakage-face work is already being conducted at worked-out coal seams in this mine. We have decided and we shall not retreat later from achieving the intended goals and we shall work precisely in this direction. We have also noted a number of measures for changing the system of excavating seams at Underground Mine No 8. This was dictated by the need to reduce losses during operation, to create conditions for more intensive use of machinery and mechanisms during mine tunneling excavations, the elimination of heavy manual labor, and the automation and mechanization of production processes at both the underground mines and the coal preparation plant.

Here, it would seem, it must be emphasized that the Tkvarcheli Central Preparation Plant is a high-capacity enterprise. It is equipped with modern, highly productive equipment, and progressive upgrading technology is being used here. In particular, flotation machines and dense-media separators for upgrading coarse raw material have been introduced here. It must be emphasized that a high-powered dense-media separator has been introduced at the preparation plant for the first time in the country. Nor do we forget about long-range development. For example, the Ukrainian Scientific-Research for Coal Preparation is preparing for us a design for conversion of the central preparation plant to a new and progressive method for upgrading coal in dense media.

However, in order to resolve this task, it is necessary to execute also a number of other measures no less important. These concern, primarily, questions of the selection, assignment and training of personnel. And we place first priority on unconditional fulfillment of the social program for developing the underground coal-mine administration collective. We have already developed such a plan. It calls for improvement of all our work, the creation of better working and living conditions for the people, and the construction of cultural and domestic-amenity facilities. This program has been developed in strict accord with the November 1981 CPSU Central Committee decisions.

We are hoping that the execution of everything contemplated will essentially change the face of all our underground coal-mining cities. Purposeful execution of the measures that are called for in the CPSU Central Committee decree, "On Measures for Accelerating the Reequipping of USSR Ministry of Coal Industry Underground Mines with Machinery," will enable us to sharply increase the work. An important stimulus here is the fact that the coal-mining administration collective has energetically been included in the work on economic restructuring.

In the second half of the year the coal-mining administration contemplates certain shifts in the area of increasing the mining of coal. It must be said that these are only the first results of the work being done to improve the business, but they testify that we are acting correctly and are following the right path. And we have grounds for asserting: we will insure fulfillment of the plan tasks. Our job today consists in creating a firm base for rhythmic work in the second year of the five-year plan.

We have many problems. The main thing is to solve them in integrated fashion and on a strict scientific basis. Then the results of the work will be more meaningful.

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LIQUEFIED BOTTLED GAS SUPPLIED VERY IRREGULARLY TO RURAL GEORGIANS

Tbilisi ZARYA VOSTOKA in Russian 24 Nov 81 p 2

[Article by S. Barbakadze: "A Lack of Rhythm, or Why the Supply of Bottles of Liquefied Gas to the Republic's Populace Is Interrupted"]

[Text] The residents of some of the republic's villages have been using liquefied gas for more than a year now, and in recent months they have felt the clear symptoms of confusion in the supplying of fuel. Thus, for example, the residents of villages of Zugdidskiy, Khobskiy, Chkhorotskuskiy, Tsalendzhikhskiy and Mestiyskiy Rayons were compelled this summer to set off in search of Dedovskiy kerosene stoves--a housewife could not let the family go without dinner just because a bottle of liquefied gas had not been delivered. Summer is gone and autumn is here, and even winter is getting close, but the residents of these rayons' villages cannot say good-bye to the kerosene stoves. Vehicles with gas bottles do not drop in at the villages for weeks. And they are being awaited here with impatience--with empty bottles and receipt forms. However, the vehicles do not come.

And they would be there if the supervisors of Trust No 3 of the Georgian SSR State Committee for Gas Supply would send them out to these villages from time to time. But the mechanics of delivery are not simple for them--during September and October the Tskhakayevskiy Gas Filling Center fell short in deliveries of liquefied gas to the trust by 450 tons. This is a lot--this is almost 40,000 bottlefuls. And, obviously, it must also be considered that in September alone the Tskhakayevskiy gas workers failed to deliver half of the planned amount of fuel to the Zugdidi trust.

The figures can tell much. What, exactly? It depends basically upon what angle you look at them from. The supervisors of Zugdidi Trust No 8 and the Tskhakayevskiy Gas Filling Center tend to look at the figures from the angle most convenient for them:

"Since the start of this year they have fallen hundreds of tons short in the delivery of liquefied gas," complains chief of the Tskhakayevskiy Gas Filling Center B. Chanturiya, "and this has caused interruptions in supplying the region's population with fuel."

And Zugdidi Trust No 8 chief, D. Kvaratskheliya, repeats this in unison with him. The position of these supervisors is clear--there are underdeliveries--that's all there is, that's it, you'll get nothing out of us, they say. But that's not what this is all about, for these are not outside observers in this tale but the most direct participants. For, without mentioning everything else, when they did receive a quantity of gas, they did not manage to distribute it thriftily, to apportion it sensibly. And so it happened that the residents of this region did not receive bottles of liquefied gas for a month. But, let us add--getting somewhat ahead of myself--this is not, of course, the only reason.

The kerosene stove fad, which has been widespread in recent months in some parts of the republic, is not very nice, the more so since it was caused by the lack of skill of some of our economic managers in organizing the matter.

The Makharadzevskiy Gas Filling Center complains with the same stereotyped phrase--they do not give it to us, they say, so we, accordingly, cannot give it out. What is more, the supply and equipment base of the center is inadequate. The diesel engine, for example, does not work, and the so-called "rotary dispenser" is being introduced slowly.

And, it is true, the rotary dispenser at the center was not working, but in its place another carousel was spinning around--the merry-go-round of poor management. It is clear to a child--it is much easier to complain, to point to somebody else, to seek out the guilty behind one's back, than to show initiative and take on the business with energy....

Incidentally, about energy. But this time electrical. The supervisors of the Makharadzevskiy Gas Filling Center very calmly write off 3 days of their absence in November, during which not one bottle of liquefied gas was delivered to a village.

And indeed, outwardly everything here is, as they say, in order--well, there was no electricity, so we had to go home. Isn't this an objective reason? However, it is this very complacency that causes serious harm, this lack of initiative has also led to interruptions in supplying certain regions of the republic with liquefied gas. Such a search for "objective reasons" has, unfortunately, become an end in itself, a curtain with which some supervisors of the republic's Goskomgaz [State Committee for Gas Supply] would like to screen themselves off.

And, as a consequence, such an approach by the supervisors is at once telling on the work of each element and section of the subunits. Let us take, for example, the village of Muskhi, which is in Akhaltsikhskiy Rayon. Vehicles with liquefied gas from Trust No 6 of the republic's Goskomgaz get here so rarely that the villagers are inclined to consider such a "drop-in" an occasion. But, alas, the trouble here is not just the number of vehicle visits to Muskhi. The matter is how they distribute the bottles in the village itself. It turned out that in most cases the vehicles do not even get to the center of the village, and the bottles are bought at the entrance, at the village's outskirts. This is why it happens that liquefied gas is being provided only to those families that live at the edge of the village, and the others get by without gas as best they can. And most worrisome of all here is the fact that the drivers themselves do not see anything reprehensible in such a matter--they do the main thing--the bottles are sold. To whom and how--this, they say, is a secondary matter.

This organization of delivery of liquefied-gas bottles thus also characterizes the work of some other trusts of the republic's Goskomgaz.

"In recent years the demand for liquefied gas in our region has grown severalfold," says Sh. Barbakadze, acting chief engineer of Tkibuli Gas Office, "but deliveries of this fuel to our city have grown slowly. It is now planned that we will receive 1,800 tons of liquefied gas this year, but at least 2,600 tons are needed. Because of such planning, and also the lack of regularity of deliveries to Tkibuli, not one bottle of liquefied gas has arrived in Tkibuli in 2 weeks."

Not just in Tkibuli, but in many other parts of the republic the demand for liquefied gas is rising. And, of course, one cannot help but consider this. Practice proves that the estimates for delivering liquefied gas do not stand up to any kind of criticism: only the population's minimal requirements for this fuel are considered. And indeed, planning for this level means planning for interruptions, and it means coming to grips with the difficulties in providing the populace with fuel.

But for the sake of correctness, let us also emphasize something else here: in analyzing the factors that give rise to a lack of rhythm in supplying the populace with liquefied gas, the figures should also consider fuel shipment stoppages by the supplying refineries, flaws in supplying gasoline for the specialized motor-vehicle transport of the republic's Goskomgaz, and a number of other factors. These are, of course, serious barriers in the way of a precise rhythm of supply. But indeed, those barriers that exist in organization of the job at the republic's Goskomgaz enterprises themselves are much more serious.

What does the final result of the matter depend upon? Primarily upon what decisions are adopted and what principles the supervisors are guided by in carrying out the decisions. The republic's Goskomgaz has a multitude of decisions that should provide for uninterrupted supply of liquefied gas to the rural populace, but interruptions still occur. Why? Because of the fact that, of the many principles of supervision, the main one did not operate here--the solutions themselves did not work.

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KARAGANDA COAL MINES NOT PROPERLY SUPPORTED WITH LONGWALL MINING MACHINES

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Sep 81 p 2

[Article by I. Tir, chief mechanical engineer for longwall mining machines of the Karagandaugol' Association and candidate of engineering sciences: "At One's Own Hazard and Risk"]

[Text] The new KM-130 longwall mining machine has appeared at our association's underground mines this past year. Developed by Giprouglemash [State Institute for the Design of Plants for Building Heavy Machinery] and manufactured by the Kargormash Association, it has been called upon to replace the KM-81E longwall miner and other machinery of this type, which cannot operate under difficult mine-geology conditions. However, we did not at first receive the expected benefit. It turned out that the machine's design had not been worked out completely and some of its parts and components were made defectively. Now and then the hydraulic control valves, the relief check valves, the safety valves and the mated supports go out of order. The miners themselves have to eliminate most of these defects.

If this case were isolated, then surely it would not be worthwhile to write to a newspaper about it. The problem, however, is much more widespread.

During the past five-year plan the workload per longwall mining machine in the Karaganda basin fell by almost 200 tons per day, that is, by more than 22 percent. This trend continues this year. The fact is that in recent years the mine-geology conditions under which the miners have to work have worsened sharply. We have to take coal at deeper horizons. As a result, the mine pressure has grown stronger, and gas, water and so on have started to appear more copiously. New and more reliable underground equipment is needed.

And it exists. But the machinebuilders are producing painfully little of it. This is why our association's miners must, as they say, cut their clothing according to the cloth and make use of what is old. Right now almost a fourth of the longwall mining machines being used in the basin are subject to writeoff. And the main thing is that no ray of hope is projected for the future in this matter.

During the current five-year plan, in accordance with a specific integrated program for improving breakage-face work technology that was developed by the USSR Ministry of Coal Industry, our basin should convert to more improved longwall mining machines. In accordance with the program for this year, for example, we should receive 9 MK-75 longwall miners, but the ministry has allocated only 4. Instead of 11 1MKM longwall miners, we are being sent only 2.

I want to be understood correctly. We are not putting the question point blank--here and now! Possibly the industry's machinebuilding plants are not yet in a position to completely satisfy the requirements for new, more improved machinery. If this is the case, then the appropriate administrations of the ministry should propose another variant that is acceptable to all. We say, consider in this integrated program such an important question as the modernization of existing machinery. However, unfortunately, this important document does not call for such measures. And so we have to do the work, what is more, with our own forces.

But why not organize it in centralized fashion, within the industry's framework, and acquire collectives of coal institutes and machinebuilding plants for it?

Meanwhile, we are still not only not being given help but often sticks are being poked in our wheels. Kuzbass [Kuznetsk Coal Basin] miners, for example, have used an improved design of their own. We found out about it and we wanted to copy their experience. What, it would seem, could be simpler? On the contrary, it was necessary to expend a mass of paper and time on all possible coordinations, to conduct our own acceptance tests in the basin, and thus only then will Gosgortekhnadzor [State Committee for the Supervision of Industrial Safety and Mining Inspection] give an OK to the use of the equipment in a new place. Although all this work has already been done under similar conditions.

Many times I have asked myself: why does our ministry overlook this important problem? It turns out that USSR Minugleprom does not even have an appropriate service for engaging in questions of the operation, improvement, erection and disassembling of longwall mining machines. So the mine workers must improve new and obsolete equipment at their own risk.

11409
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FUELS

MAJOR PROBLEMS OF KANSK-ACHINSK FUEL, POWER COMPLEX SPELLED OUT

Moscow PRAVDA in Russian 13 Dec 81 p 2

[Article by V. Prokushev (Krasnoyarsk): "The Coal of KATEK [Kansk-Achinsk Fuel and Power Complex]"]

> [Text] "Develop and introduce effective methods for the integrated use and processing of solid and heavy liquid fuels and also for obtaining synthetic fuels."--From the Main Directions for the Economic and Social Development of the USSR During 1981-1985 and During the Period up to 1990."

Along the road to a Berzovskiy strip coal mine, which is under construction, I picked up a lump of brown coal by the side of the road. It was unimpressive in appearance, you would pass it by without noticing it. But I recalled the speeches of scientists at the scientific and practical affairs conference that had convened in the spring in Krasnoyarsk, where the Kansk-Achinsk Fuel and Energy Complex was the subject of discussion. I clearly imagined what remarkable riches were concealed in this lackluster stone.

By means of modern methods of upgrading and processing, Berezovskiy coal can be transformed into a highly effective solid, liquid or gaseous fuel. The light part of the coal tar yields phenols and benzols, naphthalene, hydrogen and ethylene. Methanol and formic acid, which is necessary in medicine, for dyeing wool and for canning fruit juices, can be obtained from a mixture of gases. And the reaction of alkaline solutions on the coal engenders a substance that stimulates plant growth.

If all these descendants from one "father" were to be lined up in a row, an unusually attractive spectrum of colors and hues, perhaps richer than a rainbow's, would strike the eye. It is these that are the true colors of the brown coal, which are indiscernible at first glance. But scientists and production personnel have much strenuous work to do to make all its facets sparkle.

No little has already been done to supply the Siberian complex with new equipment and technology. Thus the Zhdanovtyazhmash [Zhdanov Heavy Machinebuilding Plant] Association collective has fabricated a specially made rotary complex in accordance with drawings by Novokramatorsk Machinebuilding Plant Association design developers that will mine 5,250 tons of coal per hour. In productivity, one such machine cedes nothing to a large underground coal mine.

It is still difficult for us to imagine a thermal electric-power station without high smoking stacks. But it is this which the creators of the magnetogasdynamic generator--scientists of the Krasnoyarsk Section of the Institute of Theoretical and Applied Mechanics of the Siberian Department of the USSR Academy of Science and Krasnoyarsk University--see for the KATEK zone. They consider that the generation of electricity by burning coal in fireboxes has become obsolete and that the future lies with MGD [magnetogasdynamic] generators. The essence of this consists in passing a stream of gas, obtained from the combustion of coal, across a magnetic field to produce electricity directly.

"The optimists assert," says one of the installation's originators, rector of Krasnoyarsk State University and Doctor of Mathematical Physics Sciences Professor V. Sokolov, "that only the first two Berezovskaya GRES's will operate with boilers, while the heart of the third will be an MGD generator. I would like very much to see this forecast realized. But an entire new organism--a power station new in structure--must be built up around the heart of it."

The experimenters who are transforming Kansk-Achinsk coal into various substances that the national economy needs extremely badly are also having successes. Thus, the Institute of Fuel Minerals of USSR Minugleprom [Ministry of Coal Industry] has developed a technology that will permit a ton of liquid products--"coal oil," as it is called--to be obtained from 5 tons of Kansk-Achinsk coal. The scientists of this same institute have developed a processing for gasifying the solid fuel in a fluidized bed, with high-temperature scrubbing of dust and sulfur compounds from the gas. The generator that will be started up here is more than three times as productive as its foreign counterparts.

Yes, remarkable achievements, as they say, are available. However, this is only the very beginning of enormous work to develop the complex. The problem of reliability of the new equipment, for example, has long worried Siberia's coal miners. At the currently operating Irsha-Borodinsky and Nazarovskiy Strip Mines in the Kansk-Achinsk zone, rotary excavators are now being operated. They are less powerful than the giants of the future but they operate on the same principle. Cold often puts rotary excavators out of operation: the moist rock mass freezes to the bucket and the conveyor.

The mining of the coal is not everything. Colossal amounts of transport work must be done. At one strip mine alone as much as 200 million cubic meters of rock and coal have to be shifted from place to place each year. Only superpowerful continuous-action excavating equipment can cope with this. The dates for designing it have been extended by Mintyazhmash [Ministry of Heavy and Transport Machinebuilding] institutes.

Let's take as an example a complex of machinery with a productivity of 12,500 cubic meters per hour. The Novokramatorsk Machinebuilding Plant Association recently undertook to develop engineering proposals for a transporting and dumping complex. But the machinebuilders did not at all adopt the engineering task for those machines that Minugleprom had developed, and the manufacturing plants still have not been designated.

The question of delivering coal from the strip mines to the power stations is an especially severe one. The fireboxes of just one present-day GRES will absorb a hundred thousand tons of fuel daily. Even a continuous flow of railroad trains will not solve the problem. Therefore, it is planned to create a giant conveyor belt with a throughput of 10,500 tons per hour. Domestic machinebuilding still cannot cope with this equipment. At the start of last year the engineering task was approved and it was sent to Mintyazhmash and Minelektrotekhprom [Ministry of Electrical Equipment Industry]. The Ministry of Petroleum Refining and Petrochemical Industry has been charged with creating a cable-reinforced belt, which we have yet to manufacture.

Now is the time to undertake erection of the 15-kilometer gallery, which Kuzbassgiproshakht [State Institute for the Design of Underground Coal Mines and Coal Preparation Plants in the Kuznetsk Coal Basin] is required to design. But the engineers still do not know how this should be done, since the conveyor line's dimensions are not known. The plants cannot start to manufacture it, since Mintyazhmash institutes are prolonging issuance of the design.

Let's go farther along the technological chain. Coal now must be burned in a boiler, in order to make the water into steam, which turns the turbine. It would seem, what could be simpler? In general, that's how it is when we talk about coal from the Donets, Moscow Area and Kuznetsk coal basins. But we are still poorly informed about how to burn Kansk-Achinsk coal and what kind of a firebox to use.

The Nazarovskiy GRES, which is operating with such fuel today, is deceptive. More than 10 years ago a unit with a turbine capacity of 500,000 kilowatts went into operation. But the machine, of "five-hundreder" fame in Siberia, is more properly called a "four-hundreder." Its complicated pipeline system quickly gets covered with a thick layer of slag, and the boiler does not give enough steam or the turbine enough electricity.

Berezovskiy coal is more capricious than Nazarovskiy coal, although they are found in the same coal basin. There are still no boilers suitable for it. A way out was proposed by the workers of the Central Boiler and Turbine Institute of the Siberian Branch of the All-Union Heat-Engineering Institute. A boiler unit is now being built at the Podol'sk Machinebuilding Plant imeni Ordzhonikidze for the Berezovskaya GRES-1, which, as proposed, will be able to burn effectively coals of differing properties. The boiler, which weighs 20,000 tons, will be 100 meters high. A beam of 7 meters thickness will be required to support it. In size, the boiler's firebox itself will cede nothing to a modern motion-picture theater.

But this is not a case where one should be delighted with size. The complexity of the design, the high metal consumption and the cost--these are the price of this scale. The expensiveness of the unit will cause the prime operating costs for each kilowatt-hour of the Berezovskaya GRES to be extremely high. Yet this is the country's cheapest coal. Obviously, research should be conducted in the area of creating a basically new firebox arrangement.

Transforming the heat energy of coal into electrical energy is a task of paramount importance, but it is not the only one. Comrade L. I. Brezhnev said this at the 26th Party Congress about some of the important brown-coal reserves: "In looking at the long term, the question about producing synthetic liquid fuel, based on Kansk-Achinsk basin coal, should also be worked at soundly." The Ministries of Power and Electrification, Coal, Petroleum Refining, Electrical-Equipment Industry, Ferrous Metallurgy and others, as well as the Academy of Sciences and USSR Minvuz [Ministry of Higher and Specialized Secondary Education], should create a technology for processing the Siberian basin coal and conduct tests at experimental and industrial-test installations.

How is this matter going? The industrial processes developed by the Institute of Fuel Minerals should be perfected at the autoclave at the Irsha-Borodinskiy Strip Mine. However, the Krasnoyarskugol' Association is prolonging its construction. Another installation should begin to operate at Berezovskiy Strip Mine No 1, but here also the builders are not hurrying.

And how are things going with the power-engineering workers? The ENIN [Power Engineering Institute imeni G. M. Krzhizhanovskiy] energy-technology coal-treatment method has passed tests at TETs-2 in Kalinin and the Sibelektrostal' plant in Krasnoyarsk. Eighty thousand tons of Kansk-Achinsk coal were converted into coke fines--a valuable smokefree fuel for metallurgy. Later the ENIN method was to be mastered on an industrial scale, for which purpose it was planned to build a prototype installation at Krasnoyarskaya TETs-2. Six years have passed since the first masonry was laid, but construction has not been completed. Why? Coal workers are responsible for mining coal, and power engineers are responsible for generating electricity. But the production of liquid synthetic fuel and other products is treated like an outside makeweight, a social burden.

Meanwhile, coal chemistry is already operating as a branch of industry, but it has been left "hanging" somewhere between other branches. Several years ago the same situation prevailed with petrochemistry. Life compelled that an organizational structure be defined for it. It would seem that the time has come to use this experience and to give coal chemistry the rights of a new state subbranch. Obviously, within the framework of Minugleprom itself.

Throughout the entire "coal" chain--mining, transporting, combustion and the extraction of synthetic substances--science and practice still are not interacting fully. First the scientists, and then the production personnel get ahead, but then each is forced to stop to wait for the partner. And this means that overall progress is held back. Apparently, a portion of the resources that the government has allocated adequately for construction of the complex's industrial facilities should be used more boldly, to create an experimental base and to introduce planned industrial-test installations into operation.

Strengthening, development and maximum concentration of the efforts of scientists and design developers are required. More than 100 of the country's institutes are engaged today in KATEK's problems. A council that is called upon to coordinate their operations was established recently. It would seem that its power is great. But most of these scientific institutions are located far from the Siberian complex, whose mission is secondary for them, so their yield is not great. The idea of creating a high-capability scientific complex that would cover the solution of all of KATEK's most important problem suggests itself. For there are 600 billion tons of coal in the basin.

The foundation for this complex has in essence already been laid in Krasnoyarsk. However, the institutes and laboratories newly created here are being developed extremely slowly--there are not enough resources and scientific forces. Therefore, the decision to create a large scientific center for studying KATEK problems...in Moscow...that was adopted at the start of this year has plunged the Siberians into great bewilderment. From Shatura to Sharypov is no more and no less than about 4,000 kilometers. Coal will be sent to the experimenters in containers. This is the same as if an expedition to study arctic ice had been sent to a camp in Sochi and the ice would be shipped to it in thermos containers.

The November party plenum that convened recently required intensification of the mutual ties of science and production, a rise in responsibility for the level of research, and more rapid use of the results of developments and inventions in the national economy. All scientific research should be subordinated to this requirement.

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BETTER AIR SUPPORT FOR URENGOY GAS PIPELINE CONSTRUCTION URGED

Moscow VOZDUSHNYY TRANSPORT in Russian 1 Dec 81 p 1

[Interview with Nikolay Ivanovich Kurbatov, chief of Glavsibtruboprovodstroy [Main Administration for the Construction of Pipelines in Siberia], by V. Solov'yev: "The Steel Strand of the Pipeline Crosses Taiga and Swamps"]

> [Text] Our newspaper has already reported that the collective of the Tyumen' Civil Aviation Administration has accepted the appeal of the builders of the Urengoy-Nizhnyaya Tura-Petrovsk gas pipeline and has committed itself to doing everything possible to support introduction of the gas pipeline ahead of time with aviation service.
>
> VOZDUSHNYY TRANSPORT has organized for the construction work a public correspondents' center with a view to publicizing the joint work of the builders and aviators and to finding deficiencies that hold back construction progress.
>
> A conversation by our special correspondent with N. Kurbatov, chief of Glavsibtruboprovodstroy, opens up a series of published items.

[Question] Nikolay Ivanovich, first or all I would like to hear the amount of work that your collective should do to fulfill the current five-year plan.

[Answer] Six gas lines several thousand kilometers long will be laid from the celebrated Urengoy field to the European portion of our country. Comrade L. I. Brezhnev has named these routes as central construction projects of the five-year plan. It would seem that these words do not need extensive commentary. They define not only the enormous national economic importance of the gas transport systems being erected but they also characterize the colossal amount of work that must be done by Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] subunits.

In particular, our collective is to lay gas pipelines in parts of the Tyumen' North. This indisputably is the most difficult section of the gigantic construction project. On the columns' path are swampy taiga and tundra. It is many tens and hundreds of kilometers to the nearest railroad yard.

Our builders are to extend 7,000 km of gas trunk lines--twice the amount of the preceding five-year plan--under these conditions. I want to emphasize: we still have not done work of such sweep before.

[Question] Nevertheless, you have decided to take these goals ahead of time....

[Answer] The paramount task is to complete the erection of an 850-km section of the Urengoy-Petrovsk gas pipeline in December of this year, that is, 4 months ahead of schedule. This will make it possible to send our country's industrial centers billions of additional cubic meters of gas.

We also plan to speed up introduction of the Urengoy-Novopskov and Urengoy-Uzhgorod "strands." In all, 1,600 km of underground arterials are to be built in the winter.

[Question] It is known that the closest contacts have been maintained for many years between the oil and gas pipeline builders and civil aviation subunits, but right now let's dwell on the positive things that have been achieved. Let's formulate the question this way: how are business contacts established now? How are the aviators carrying out their commitments?

[Answer] A schedule has been made up, together with the Tyumen' Civil Aviation Administration, for the delivery of equipment to the hot spots--Urengoy, Nadym and Igrim. However, the work of the aerial bridge, unfortunately, still has troubles. Thus, during the first 20 days of November, the aviators missed 30 flights--almost a third of those planned. Now, in order to correct matters, many more aircraft will have to be allocated.

It is also necessary to provide in the shortest possible time for the reception of An-12 airplanes at Igrim, which depends to no small extent on the local aviation subunit.

One more thing. In order to cope with the strenuous tasks, we will try to introduce work on the pipelines in the summer. This is unthinkable without helicopters, and only with their help will it be possible to provide at that time for the delivery of rotating-duty personnel, machinery, fuel and foodstuffs to the many operating points on the taiga pipeline route. However, the orders of the main administration's subunits, especially for heavy helicopters, are being met far from completely, and this has reduced our potential noticeably. It is important that this not be repeated in the future, when the scale of operations will grow still more.

Each day and hour spent on the construction of gas trunk pipelines is costly now. "If you do not fulfill the task, you do not leave the line!" is the motto of many of our columns. I would like the workers on the aerial route to make this a part of their weaponry also.

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SOME DESIGNER WORK ON URENGOY-UZHGOROD GAS PIPELINE DESCRIBED

Kiev PRAVDA UKRAINY in Russian 9 Dec 81 p 1

[Interview with Nikolay Alekseyevich Ishutin, director of VNIPITransgaz, by a PRAVDA UKRAINY correspondent: "The Great Route for Gas"]

> [Text] The All-Union Scientific-Research and Design Institute for the Transport of Natural Gas (VNIPITransgaz), which is in Kiev, is one of the industry's leading organizations. Designs for many gas pipelines have been born here in different years. Right now the institute's collective has a shockwork project for the 11th Five-Year Plan: the design of a substantial portion of the Urengoy-Uzhgorod trunk gas-export pipeline. VNIPITransgaz director N. A. Ishutin tells a PRAVDA UKRAINY correspondent about it.

"There is still no gas pipeline anywhere on the scale of the Urengoy-Uzhgorod pipeline (its total length is 4,500 km)," says Nikolay Alekseyevich. "The designing of the enormous facility, which runs through numerous RSFSR and UkSSR oblasts, has been distributed in sections among several institutes, included institutes in Donetsk, Leningrad, Kiev and Gor'kiy. Almost the whole of that part of the route that passes over Ukrainian territory--1,200 km--has fallen to our institute."

The institute's director lays out on the table a more detailed scheme of the route's "corridor" and the adjacent regions, and we set forth on a journey along the Ukrainian section of the future gas pipeline--begining from the border between Kurskaya and Sumskaya Oblasts.

Right now surveyors are at work on the route. And then the steel strand, made of pipe 1,420 mm in diameter, will be laid, over which Siberian gas will be sent under a pressure of 75 atmospheres to the west. The FRG will receive the gas that its economy needs so badly, the value of which under the current conditions of the energy crisis in the west is difficult to overestimate. And our country should receive from the FRG large-diameter pipe that is manufactured by the well-known Mannesman company.

"Our collective," says N. A. Ishutin, "like all Soviet people, has paid great attention to the visit of CPSU Central Committee General Secretary, Chairman of the USSR Supreme Soviet Presidium Comrade L. I. Brezhnev to the FRG. His conversations with FRG Chancellor G. Schmidt will help further development of mutually advantageous Soviet-West German relations in all spheres, including, of course, the area of the economy."

A large number of compressor stations will be built along the route of the new gas pipeline. A group of specialists is being sent from Kiev to Florence, for acceptance of engineering papers for the compressor stations' turbines. And it is planned to send from Finland nine housing settlements that are designed for 300 people each to the compressor-station construction sites. The arterial's operators and other specialists will live in them during erection and mastery of the gas pipeline.

"Several of the more complicated places of the route are located on that section that passes over UkSSR territory," said Nikolay Alekseyevich, pointing them out on the diagram. "They are, first, the crossing of the Dnepr north of the Kremenchug Reservoir (its water surface is half a kilometer wide there, but the whole floodplain is 22 km wide). Then there is the aerial crossing, more than 150 meters long, over the Dnestr--on bridge-type supports. And, finally, the Carpathian Mountains section, 160 km long, with a gradient of 1,100 meters. In the Carpathians, in considering the complexity of the relief and other natural difficulties, the gas pipeline will be erected simultaneously in two strands. This mountain stage will be built according to our design by the Transcaucasus Administration for Gas Pipeline Construction, from Yerevan, which specializes in trunk gas pipelines in the mountains."

And organizations of Glavukrneftegazstroy [Main Administration of the UkSSR for the Construction of Oil and Gas Industry Enterprises], UkSSR Minpromstroy [Ministry of Industrial Construction] and other ministries and agencies will work on other Ukrainian segments of the route.

...The line will split at the exit of the Carpathian Mountains into the Transcarpathian Valley. One line will go to Uzhgorod and beyond, over Czechoslovak territory, and the other will go through Beregovo--to the Soviet-Hungarian border. The Czechoslovak section is ready now. And Hungarian specialists will design their section in engineering consultation with their Soviet colleagues.

"In his speech at the November 1981 CPSU Central Committee Plenum, Comrade L. I. Brezhnev named the Urengoy-Uzhgorod gas-export pipeline as one of the central construction projects of the five-year plan, which unfailingly should be completed on time, and he expressed confidence that the builders will cope with this task with honor," says N. A. Ishutin. "Our institute should, in accordance with plan deadlines, begin to issue the first working drawings for the linear part of the gas pipeline in the first quarter of 1982, and, for the compressor stations, starting in the second quarter of next year. The deadlines, of course, are rigid. And we are doing everything possible not to let the builders down. Moreover, we are trying to issue the working drawings for 400 km of the linear part of the gas pipeline ahead of time--before the end of this year, and beginning in December we will also begin to issue documentation for the compressor stations--in order to provide the builders with a work front and a work start for the long term. This will be our labor gift for the forthcoming 60th anniversary of the establishment of the USSR."

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FUELS

CONSTRUCTION OF URENGOY-PETROVSK, OTHER GAS PIPELINES DESCRIBED

Moscow IZVESTIYA in Russian 29 Dec 81 p 1

[Article by A. Sabirov (on the route of the Urengoy-Petrovsk gas pipeline, which is under construction): "From Urengoy to the Carpathians"]

> [Text] A unique system of pipeline arterials for providing Siberian gas to the European part of the country is being created.

Not by far is it the first gas pipeline that Hero of Socialist Labor I. Shaykhutdinov of Tatnefteprovodstroy [Tatar Trust for Oil-Pipeline Construction] has laid, but the work on it has not been easier. There are snow, blizzards and swamp.... But stopping is impossible, either by day or by night. And the operating flow line group that I. Shaykhutdinov supervises is persistently advancing ahead along the dotted line of the next supercapacity gas pipeline from Tyumenskaya Oblast to the European part of the country.

Earthmovers, readying the bed for the pipe, are advancing at the head of the flow-line construction group. Then the lights of the electrical welding, which connects up the steel strand, blaze up. And immediately thereafter the insulation workers wrap the pipe in a protective jacket.

Each welded joint is inspected with X-rays. Only on being convinced that there are no criticisms of any kind, the machinery operators fill in the bed of the future underground "river" with earth. It is extended by a minimum of 1 km/day, and, on good days, by a whole 3 km.

"We consider Shaykhutdinov's operating flow-line construction group a model one," says trust chief engineer A. Kalinin. "The USSR Minneftegazstroy [Ministry of Construction of Petroleum and Oil Industry Enterprises] board has approved the route-workers' advanced experience, and now it finds application throughout the whole industry. Here is an example of what it yields: the fuel arterial from Urengoy to Petrovsk will be basically ready for operation not in the first half of next year but 3-4 months earlier. With the flow-line organization of production, the people have been directed toward a single goal, and they are being paid for the final result.

Shaykhutdinov and his comrades did shockwork along the Urengoy-Vuktyl-Ukhta-Gryazovets-Moscow gas pipeline route. The line has now come up to design capacity, and it is supplying the capital generously with the "blue fuel." And now still another transcontinental line is being readied for introduction. The collectives of enterprises of Leningrad, Khabarovsk, Salavat, Ust'-Kamenogorsk and other cities are helping to start it up ahead of schedule. Machinebuilders, shipbuilders, metallurgists, railroaders and aviators are speeding up the deliveries of equipment and materials. At the same time, the erection of new lines from the Tyumen' Arctic to Novopskov, Yelets and Uzhgorod is being promoted.

"Seven special giant gas-pipelines, each from 3,000 to 4,500 km long, should be built," says chief of Minneftegazstroy's territorial production-management administration V. Zinov'yev. "The total length of these arterials will exceed 25,000 km. Compressor stations numbering 227 with a total capacity of more than 20 million kw will be erected."

The creation of such a system of gas pipelines in extraordinarily short times is a complicated task, but it lies within the builders' capabilities.

Take, for example, the Urengoy-Novopskov gas pipeline. The plans called for it to be completed in 1983. But the builders adopted a counterplan under which it should go into operation about half a year ahead of time.

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URENGOY GAS-FIELD, PIPELINE CHARACTERISTICS TOLD

Tallinn SOVETSKAYA ESTONIYA in Russian 13 Nov 81 p 3

[Article by S. Mal'tsev: "Urengoy: What Is on the Horizon"]

[Excerpts] In the next 5 years almost all growth in recovery of gas in our country will be obtained through Urengoy. In 1985 this field will give 250-270 billion m^3 of gas out of the total nationwide recovery of 600-640 billion m^3.

The first 1,000 km of pipe has already been welded in construction of the next giant line, Urengoy-Petrovsk (in the European part of the USSR). It will be 2,740 km long. Each gas pipeline, almost 1½ meters in diameter, will carry, under a pressure of 75 atmospheres, an enormous amount of energy--more than is being generated by all the hydroelectric power stations on the largest Siberian rivers, the Yenisey and Angara, put together.

Along with the gas field itself, a city of gas-recovery workers--Novyy Urengoy--has grown up, with all the ordinary conveniences. A railroad more than 1,500 km long has been laid here from Tyumen'. The local airport accommodates all types of aircraft.

One of the most complicated problems of developing the region is that of providing it with electricity. Right now hundreds of small power plants are at work. The diesel fuel for them comes over thousands of kilometers. This requires enormous expenditures and a large number of servicing personnel, and, moreover, the power supply is extremely unstable. But soon the little power plants will be eliminated: the construction of a high-capacity electric-power line more than 600 km long from Surgut, where the largest power station in the Tyumen' North is located, will be completed. Then the drill rigs of the field will be converted to electric drive, and the drilling of new wells will be greatly accelerated. But in order to solve finally the problems of a reliable supply of electricity for the gas field, a high-capacity power station will be built in Urengoy, and it will be fueled, of course, by gas.

But won't Urengoy's reserves be exhausted by the end of this century? Scientists are convinced that this field's structure is unique, is reminiscent of a layer cake. Academician Andrey Trofimuk, First Deputy Chairman of the Siberian Division of the USSR Academy of Sciences and Director of the Institute of Geology and Geophysics, considers that deep horizons of the storehouse, under the gas deposits, contain oil and gas condensate--most valuable raw material for the petrochemical industry. In order to check the scientists' hypotheses, the drilling of superdeep exploratory holes will start here soon. That will give a precise answer about what riches are still concealed by Urengoy's earth.

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KAZAKH OZEN OIL FIELDS BASIS FOR REGIONAL DEVELOPMENT

[Editorial Report] Alma-Ata SOTSIALISTIK QAZAQSTAN in Kazakh 10 November 1981 carries on page 2 a 1,200-word article by M. Batyrbaev, chief of the CPSU 23d Congress imeni Red Banner of Labor Order "Uzenneft'" (Ozen Oil) Oil and Gas Production Administration, on current conditions in his administration. The article is published under the regular rubric "The Advances of Industry." The Ozen Oil fields occupy a special position in view of the goals advanced at the 26th Party Congress to further develop the fuel-energy balance of the Soviet Union and to speed up mastery of the Mangyshlak Territorial Production Complex. The Ozen fields produce 70 percent of Mangyshlakskaya Oblast oil and have contributed 200 million tons of petroleum to the people's economy in recent years. Batyrbaev also examines the current efforts of the production union (consisting of 6 subordinate industries and 38 brigades), which is well organized to fulfill its obligations. The article devotes particular attention to new technology at the field involving pumping water into well heads to increase productivity. It is anticipated that the entire production administration will have made the transition to water pumping methods by 1983.

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BRIEFS

ZHDANOV EXCAVATOR FOR 'KATEK'--Krasnoyarsk--The Zhdanovtyazhmash [Zhdanov Heavy Machinebuilding Plant] Association has begun to ship the first coal-mining giant manufactured here--an ERShRD-5250 rotary complex--to KATEK, the Kansk-Achinsk Fuel and Power-Engineering Complex. Its productivity is 5,250 cubic meters of coal per hour, and it corresponds completely to the scale of KATEK's first coal strip mines--Berezovskiy-1, Irsha-Borodinskiy-1 and Uryupinskiy, which, when fully developed, will produce 150 million tons of coal per year. [By P. Zinkeyev] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Sep 81 p 1] 11409

FLUID-POWERED COAL MINING--The Institute of Mining Affairs imeni A. A. Skochinskiy of USSR Minugleprom has created a number of basically new designs for fluid-power motors for coal-mining machines and mechanisms that have no counterparts in domestic or world practice. Use of the fluid-power motors will raise productivity of the machines and reduce their weight by one-half to two-thirds. Simultaneously, reliability and longevity indicators will be improved and the potential for automating the control of these machines will be expanded. In 1977 Goskomizobreteniy [State Committee for Inventions and Discoveries] and USSR Minugleprom proposed to expand the series output of fluid-power motors at Minstankoprom [Ministry of Instrument Making, Automation Equipment and Control Systems] enterprises, with USSR Minugleprom [Ministry of Coal Industry] sharing in financing the construction of the departments. However, Minstankoprom still has not resolved this question positively. The editorial board hopes that the Deputy Minister of the Machine Tool and Tool Building Industry, A. Ye. Prokopovich, will tell our readers about the measures that have been taken to introduce the new, highly effective equipment. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 4, Nov 81 p 8] 11409

'RASPADSKAYA' COAL-MINE ACHIEVEMENT--Mezhdurechensk, Kemerovskaya Oblast--25 Dec--P. Frolov's brigade from the Raspadskaya Underground Mine has mined its millionth ton of coal since the start of the year. [By correspondent A. Bogachuk] [Text] [Moscow PRAVDA in Russian 26 Dec 81 p 2] 11409

UNMANNED COAL-MINING MACHINE--Tula--Coal is going from the longwall, but there is not a soul under the "roof" of the mechanized complex. Only in a tunnel, far from the longwall, is the operator. He controls the coal-mining from a panel. Thus today--for the first time in the Moscow Coal Basin--they have managed, at the Novomoskovskaya Underground Mine, to remove from the longwall people, who, after having prepared the longwall, are sent to work at other mine sections. A so-called frontal hydraulic unit, created by the Moscow Area Scientific-Research Institute for the Coal Industry has been started up here, under the ground. [By TASS] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 9 Oct 81 p 1] 11409

NEW EXCAVATOR AT EKIBASTUZ--Ekibastuz, Pavlodarskaya Oblast--One more rotary giant excavator, which has been assembled at mine faces of the Bogatyr' Strip Mine, has taken its place in the labor drive. Yu. Talovskiy's excavator brigade yesterday loaded up the first coal train at the spur tracks. The rotary complex, with a productivity of 2,500 tons of coal per hour, is the first serially produced excavator with the Zhdanovtyazhmash [Zhdanov Heavy Machinebuilding Plant] brand that was manufactured to take into account the recommendations and remarks of Yu. Talovskiy's brigade. After studying the new model well during tests, the advanced brigade trained in operation of the new equipment for about 1 year, half the time spent for the first rotary complex for the strip mine. The experience of neighboring crews, who had already assembled 10 such units, helped much. They are now producing as much as 120,000 tons of coal daily. Before the end of the year another two such rotary giants will go into operation. Equipping strip mines with these machines has yielded tangible results: during the 10 years of operation of the strip mine, the mining of coal has tripled, reaching 50 million tons per year. [By TASS] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Oct 81 p 1] 11409

CUTTER-LOADER MINES VERTICALLY--Donetsk--The tunneling of more than 1 km of vertical shaft has been completed at the Donetsk Coal Mine imeni Kalinin. It will help the miners to install a high-powered rock-crushing complex. This would seem to be everyday ordinary news. But this is not so: for the first time in practice a shaft has been made by a cutter-loader, and startup of the crushing complex will provide gobbing material for mine excavation and will permit more than 10 million tons of fuel, which at one time was left in the ground, to be taken. [By Yu. Rybalov, mining engineer] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 3 Sep 81 p 1] 11409

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